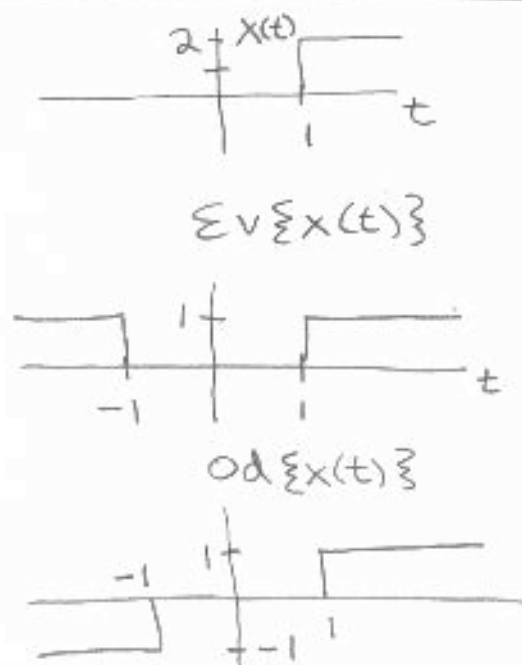


Question

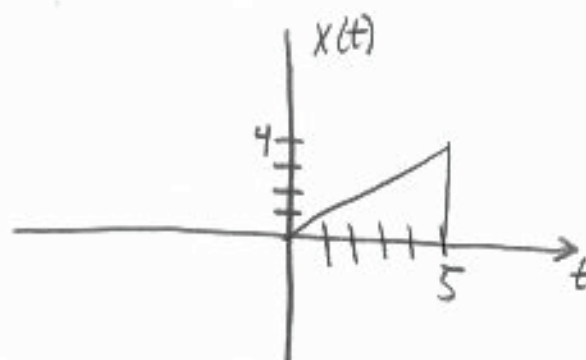
for $x(t) = 2u(t-1)$
 sketch $x(t)$, $\mathcal{E}\{x(t)\}$, $\mathcal{O}\{x(t)\}$

Answer

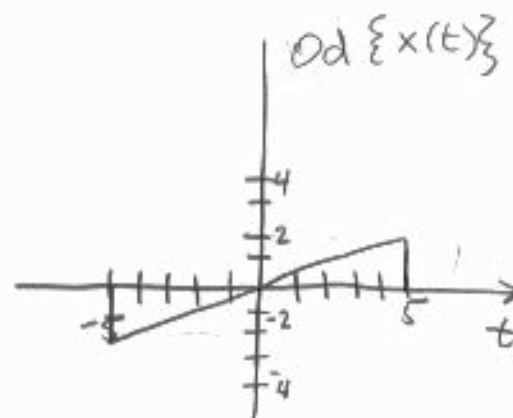
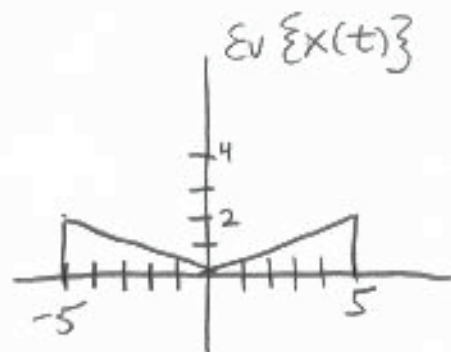


Question

Sketch & label the even & odd components of:



Answer



Question

Sketch the even and odd
parts of the function

$$x(t) = \sin(t) + \cos(t)$$

labeling all axes.

Answer

$$\text{Ev} \{x(t)\} = \cos(t)$$



$$\text{Od} \{x(t)\} = \sin(t)$$



Question

Sketch $x[n] = \delta[n-2]$
Find and sketch $\text{Ev}\{x[n]\}$
and $\text{Od}\{x[n]\}$

Answer

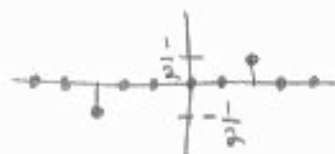
$$x[n] = \delta[n-2]$$



$$\text{Ev}\{x[n]\} = \frac{\delta[n-2] + \delta[-n-2]}{2}$$



$$\text{Od}\{x[n]\} = \frac{\delta[n-2] - \delta[-n-2]}{2}$$



Question

for $x(t) = \delta(t) - u(-1-t)$

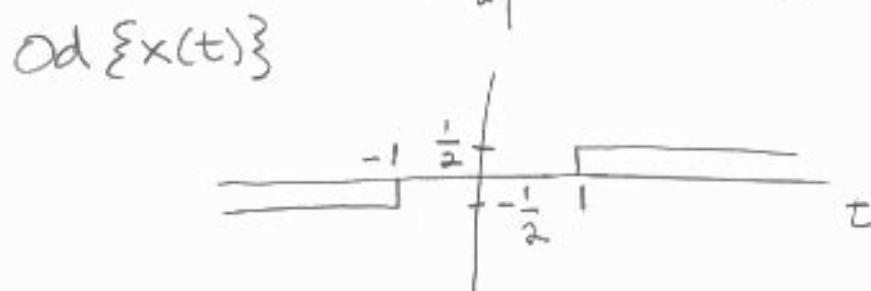
sketch $x(t)$, $\mathcal{E}\{x(t)\}$, $\mathcal{O}\{x(t)\}$
(three separate sketches)

Hint: make sure

$$\mathcal{E}\{x(t)\} + \mathcal{O}\{x(t)\} = x(t)$$

label axes + key values

Answer



Question

Sketch $x[n] = \delta[n] + 2\delta[n+1]$

Then sketch the even and
odd parts of $x[n]$,
 $\text{Ev}\{x[n]\}$ and $\text{Od}\{x[n]\}$
labeling key values.

Hint:

$$x[n] = \text{Ev}\{x[n]\} + \text{Od}\{x[n]\}$$

Answer



$$\text{Ev}\{x[n]\} = \frac{x[n] + x[-n]}{2}$$



$$\text{Od}\{x[n]\} = \frac{x[n] - x[-n]}{2}$$



Question

for $x(t) = u(t+1)$

sketch $x(t)$, $\mathcal{E}_v\{x(t)\}$, $\mathcal{O}_d\{x(t)\}$

label axes and key values

Make sure that

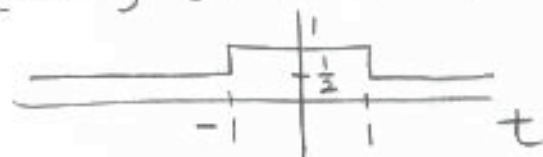
$$x(t) = \mathcal{E}_v\{x(t)\} + \mathcal{O}_d\{x(t)\}$$

Answer

$$x(t) = u(t+1)$$



$$\mathcal{E}_v\{x(t)\} = [u(t+1) + u(-t+1)]/2$$



$$\mathcal{O}_d\{x(t)\} = [u(t+1) - u(-t+1)]/2$$

